Maryland Artist/Teacher Institute

Arts Integrated Lesson Plan

ART FORM:

Dance

SUBJECT AREA:

Mathematics

Lesson Title:	Grade:
Geometric shapes	2
Contributor, School:	Time Frame:
Christine Wang, Potomac Elementary School	One 40-minute session

State Curriculum Content Standards, Indicators, Objectives

Dance Content Standard	**Mathematics Content Standard**
3.0 Creative Expression and Production: Students will demonstrate the ability to create and perform dance.	2.0 Students will apply the properties of one-, two- or three-dimensional geometric figures to describe, reason, or solve problems about shape, size, position, or motion of objects. Topic A. Plane Geometric Figures
Dance Content Indicator	**Mathematics Content Indicator**
3.2 Develop the ability to combine the elements, aesthetic principles, and choreographic forms of dance.	2.A.1 Recognize and apply the properties/attributes of plane geometric figures.
Fine Arts Content Objective	**Mathematics Content Objective**
3.2.a Manipulate the elements of dance to communicate the same idea or concept in a variety of ways.	2.A.1.a Identify and describe sides and corners.

Objective(s) (Connecting the content areas)

Students will identify and describe the sides and corners of different geometric shapes made in a variety of ways by manipulating levels of their bodies and through the use of a prop.

Key Arts Vocabulary	**Key Mathematics Vocabulary**
levels, shapes	*polygon, triangle, rectangle, square*

Prior Knowledge Students Need for This Lesson

Arts	**Mathematics**
The ability to move in different levels—high, medium, and low The ability to move the body into different shapes	Concept of geometric shapes

Materials and Resources

Materials and Resources for the Class	**Materials and Resources for the Teacher**
Stretch ropes (can be purchased from Snitz, Mfg. Co., 230 Mechanic Street, Princeton, WI 54968) or Single plastic cord jump ropes (can be found in most school gymnasiums)	Pictorial representation of many geometric shapes Large individual drawings of a triangle, a rectangle, and a square CD/Tape player Music for use as students are improvising (possible selections—"Movin'" by Hap Palmer; "Midnight Moon"; "Gentle Sea"; "Enter Sunlight"—-Educational Activities, Inc., Box 392, Freeport, N.Y 11520) Chart of the elements of dance: Body: body parts; shapes Space: levels—high, medium, low

Lesson Development/Procedures (including motivation, modeling, guided practice, and independent practice)

- Pictures of polygons are displayed. Students identify the shapes and are asked to share where these shapes are seen in their environment/everyday lives (e.g., home, school, playground, park).
- Students verbally review two of the elements of dance, body, and space, and then, from a verbal prompt, individually demonstrate a variety of shapes (e.g., twisted, round, angular) and stationary movements in different levels (i.e., high, medium, low).
- Stretch ropes (jump ropes) are distributed with associated guidelines: a) do not wrap them tightly around your body and b) touch only yourself with the rope.With each of the three shapes—triangle, rectangle, and square—ask a student to describe the polygon in terms of sides and corners and demonstrate a few possibilities for creating that shape using different levels (space) and having the body in different shapes while contacting the rope. (Music may be played in the background during the students' exploration/improvisation.)

- After each of the three exploration/improvisation sections, students are asked to volunteer or students are asked to demonstrate one of their shape responses.
- Students divide themselves into partners and number off—one and two. As a number (one or two) and one of the three geometric shapes are called out, that numbered student demonstrates that shape with his/her body and the rope. The other student identifies the sides and the corners of the shape. Students switch roles. The activity continues for the three shapes.
- Again with a partner (the same or a different one), one student calls out a shape and the other student creates that shape. The first student acknowledges the response with a "thumbs up" or "thumbs down." The students switch roles and repeat a few times.
- As students are completing the lesson activities with partners, they are assessed on an individual basis. (See the rubric in the Assessment section of the lesson.)

Closure/Summary

How are these shapes/polygons similar?

How are they different?

What did you do to come up with, or what responses did you provide, for each of the shapes?

Are there other times when you can come up with different responses to the same problem or task?

Assessment (Description/Tools)

Rubric

3—The student correctly demonstrates the polygon using his/her body and levels in different ways and correctly identifies the sides and corners of a polygon when a partner demonstrates.

2—The student correctly demonstrates a polygon using a variety of levels and shapes or is able to identify the sides and corners, but is unable to do both.

1—The student attempts but demonstrates few, if any, changes in level or use of different body shapes and is not able to independently identify the sides and corners of polygons.

Lesson Extensions

Different patterns of shapes are displayed on chart paper with one of the shapes missing. For example (in the actual form of the geometric shape and not the word): *square, circle rectangle; square, circle,* _____. Students complete the pattern by demonstrating the missing shape with their bodies and the stretch rope. This activity may be done with any number of shapes in the pattern.